the discovery of mineralization (1887) and up to 1990, about 38,000 tons of mercury have been obtained from the deposits of the ore field.

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EXPERIMENTAL STUDY OF METHODS OF INCREASING THE EFFICIENCY OF A DIRECT-FLOW AIR-JET DETONATION ENGINE

The subject of the study is the modeling of processes occurring in a direct-current jet engine with detonation conversion of the chemical energy of the working body into the kinetic energy of the jet. The purpose of the work is to obtain the results of the study of gas-dynamic and thermal processes in a direct-flow air-jet detonation chamber with an aerodynamic valve. One of the tools for solving such a problem is the method of a numerical experiment with the complex use of mathematical modeling technologies.

At an extremely high rate of energy release from the detonation combustion of fuel components, the traction and impulse characteristics of the engine are significantly increased; the prerequisites are created for simplifying its design, reducing dimensions and mass, which allows achieving structural perfection of detonation engine installations. The purpose of the work is to obtain the results of studies of the defining characteristics: the development of mathematical models of

the kinetics of gas-dynamic and thermal processes in the detonation combustion chamber with an aerodynamic valve taking into account the composition and properties of the gas in the working environment of the chamber [1], modeling of work processes that take place in the flow part of the engine; study of the mechanism of self-oscillations in the chamber based on kinematic patterns of gas movement, development of methods of experimental measurements of detonation flows for verification of calculation models [2], improvement of the engineering methodology for calculating detonation combustion chambers with an aerodynamic valve of a direct-flow air-jet engine for a given power.

Based on the results of theoretical and experimental studies, an engineering method of chamber calculation is proposed, mathematical models of gas-dynamic and thermal processes in a detonation combustion chamber with an aerodynamic valve are proposed, taking into account the ratio of air and fuel consumption, which will make possible to determine the properties and composition of combustion products [3].

Calculated equations were obtained for determining the frequency of oscillations in the detonation combustion chamber taking into account the aerodynamic valve, a method was developed for calculating the kinetics of gas dynamic and thermal processes in the detonation combustion chamber depending on the coefficient of excess air regulated by the aerodynamic valve. Experimental data are used to validate the two-dimensional model, which in turn provides a basis for evaluating the performance of the reduced one-dimensional model [4]. It was determined that the higher the pressure in the controlled system, the greater the free volume, the faster the adjustment speed of the actuator, and the greater the adjustment of the gas flow. Comparing the changes in the position of the flame front under the conditions of different injection distances, it was determined that under the same injection scheme, but different cavity configurations, the position of the flame front has the same tendency as the change in the equivalence coefficients, where the limit of lean blowing in the combustion chamber is determined, when the short-range injection condition reaches a near-purge state, this is because the ignition in

the cavity is greater than the flame stabilization in the combustion chamber, which is related to the power of the igniter discharge and the flow field environment inside the cavity . Experimental studies of the characteristics of detonation engines are relevant and involve the creation of a specialized laboratory and fire test stands for the rapid introduction of the latest technologies in the rocket and space industry.

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MODERN CONCEPTS
ON THE PATHOGENESIS OF UTERINE FIBROIDS

Uterine fibroids, also often referred to as leiomyomas, are benign monoclonal tumors that develop from smooth muscle cells in the myometrium. This is the most common neoplasm in women of reproductive age and is diagnosed in 30-35% of patients [1]. In 30% of cases, uterine fibroids become symptomatic, which is manifested by pelvic pain, infertility, poor reproductive prognosis and uterine bleeding, often leading to anemia. The development of symptoms in this pathology depends on the location and size of the tumor, but most often a vivid clinical picture is observed with atypical localizations of large nodes. The most common companion of uterine fibroids is pain syndrome, as a rule, it is manifested by secondary dysmenorrhea, cramping pains with a submucosal location of the node, aching pains with the rapid growth of the node, its large size, also with